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(54) Title: **COMPARATIVE GENOMIC HYBRIDIZATION**

(57) Abstract: The present invention relates to a method of comparing at least one chromosome or part thereof from a cell with a first karyotype with the corresponding chromosome or part thereof from a cell with a second karyotype. The method includes the steps of: (a) amplifying DNA from an isolated chromosome or part of an isolated chromosome; (b) attaching the amplified DNA to a solid substrate; (c) amplifying DNA from one or more cells with a first karyotype and amplifying DNA from one or more cells with a second karyotype; (d) labelling the amplified DNA from the one or more cells with a first karyotype with a first label, and labelling the amplified DNA from the one or more cells with a second karyotype with a second label, wherein the first and second labels are detectably different; (e) hybridizing the amplified and labelled DNA from the one or more cells with a first karyotype to the amplified DNA attached to the solid substrate, and hybridizing the amplified and labelled DNA from the one or more cells with a second karyotype to the amplified DNA attached to the solid substrate; and (f) comparing the relative amount of first and second labels hybridized to the amplified DNA attached to the solid substrate.